ORIGINAL ARTICLE

Translation and validation of an Iranian version of the Diabetes Quality of Life measure

Amir H Pakpour[1,2]*, Mohsen Saffari[3], Andrea Burri[4]

ABSTRACT

Aims/Introduction: The objective of this study was to translate and validate an Iranian version of the Diabetes Quality of Life (DQOL) questionnaire in an Iranian population of males and females with a diagnosis of type 2 diabetes.

Materials and Methods: A total of 503 patients with type 2 diabetes were recruited from nine diabetes clinics across several Iranian cities. A standard backward and forward translation procedure was used to convert the English version of the DQOL into the Iranian language (Persian). Internal consistency, convergent validity, known group comparison, confirmatory factor analysis (CFA) and factorial invariance were applied for the assessment of psychometric properties of the translated version.

Results: The translated version of the DQOL showed adequate internal consistency reliabilities for all subscales (Cronbach's α >0.70). CFA confirmed the underlying domain structure to be the same as for the original English version, therefore supporting the factorial validity of the translated questionnaire. In addition, questionnaire responsiveness showed good sensitivity to interventions.

Conclusions: In conclusion, the translated Iranian version of DQOL has shown high internal reliability and good construct validity, and can potentially be applied as an assessment tool for health-related quality of life in patients with diabetes. (J Diabetes Invest, doi: 10.1111/j.2040-1124.2012.00217.x, 2012)

KEY WORDS: Diabetes Quality of Life, Type 2 diabetes, Validity

INTRODUCTION

Type 2 diabetes mellitus is a complex metabolic disorder characterized by hyperglycemia, and is associated with relative deficiency of insulin secretion, along with a reduced response of target tissues to insulin[1–2]. Type 2 diabetes mellitus is a major chronic disease, and an important cause of morbidity and mortality worldwide. The burden of diabetes is globally growing, as a dramatic worldwide increase in disease-prevalence can be observed, particularly in developing countries[3]. The magnitude of healthcare problems from type 2 diabetes results not just from the disease itself, but also from its association with obesity and cardiovascular impairments, particularly dyslipidemia and hypertension[4–5].

According to statistics published by the World Health Organization (WHO), today, more than 346 million people worldwide suffer from diabetes[6], and more than 80% of diabetes deaths occur in low- and middle-income countries[7]. This number will rise to 439 million adults (aged 20–79 years) by 2030 (7.7% of the estimated world population), as estimated by a recent prospective epidemiological study[8–9]. There are major ethnic differences in susceptibility to type 2 diabetes, which are probably largely genetically determined; for example, people of Micronesian, Polynesian, Indian or Chinese background are at a substantially higher risk[5–7]. In Iran, a recent epidemiological study carried out on a large sample of Tehran's population (n = 9489) found that 8.1% of the male and 10% of the female population aged over 19 years had type 2 diabetes, with prevalence increasing progressively with age[10]. Although precise figures for the prevalence of metabolic syndromes are not usually freely available, the study concluded that overall approximately one-third of adult citizens in Tehran had impaired glucose metabolism or type 1 or 2 diabetes.

Obesity, hypertension, insulin resistance and physical inactivity are known to be major risk factors for type 2 diabetes[4,5,11,12]. Furthermore, some medical conditions can cause the disease, including acromegaly, Cushing's syndrome, thyrotoxicosis, pheochromocytoma, chronic pancreatitis and cancer[11–14]. Studies also show that socioeconomic status is inversely correlated with the prevalence of type 2 diabetes; that is, people from deprived areas and low social class are more likely to suffer from diabetes[15].

Diabetes has many complications and long-term health-related consequences. By far the greatest cause of morbidity and mortality in type 2 diabetes is cardiovascular disease. Recent data suggest that approximately 50% of type 2 diabetes patients die of a cardiovascular disease[11]. Furthermore, approximately 10% develop severe visual impairment, and approximately 2% become blind after 15 years of disease onset[12,13]. Other long-term

[1]Qazvin Research Center for Social Determinants of Health and [2]Department of Public Health, Qazvin University of Medical Sciences, Qazvin, [3]Department of Health Education, Baqiyatallah University of Medical Sciences, Tehran, Iran, and [4]Department of Twin Research and Genetic Epidemiology, King's College London, London, UK
*Corresponding author. Amir H Pakpour Tel.: +98-281-3338127 Fax: +98-281-3345862
E-mail address: pakpour_amir@yahoo.com
Received 9 February 2012; revised 17 March 2012; accepted 26 March 2012